

Apparently this species comes nearest to the Argentinian *C. clavata* in Urban and Gilg's monograph of Loasaceae, because of the general shape of the appendages of the scales. In *C. clavata* these are said to be filiform, narrowly laminuliform-dilated at the apex, thus differing from those of the proposed species. The leaves of that species, moreover, are ovate.

ZOOLOGY.—*A new sea-urchin from Florida.*¹ AUSTIN H. CLARK,
U. S. National Museum.

While working at the Dry Tortugas laboratory of the Carnegie Institution of Washington Mr. P. Powers of the University of Pennsylvania obtained some specimens of a fine new species of *Astropyga* which he was so kind as to submit to me for study.

As at present understood, the genus *Astropyga* includes two species, *A. radiata*, ranging from Zanzibar to the Hawaiian Islands, which was beautifully figured by Seba as *Echionanthus major* in 1758 and described by Leske as *Cidaris radiata* in 1778, and *A. pulvinata*, occurring on the west coast of Mexico and Central America, which was described by Lamarck under the name of *Cidarites pulvinata* in 1816. The discovery of a third species of this interesting genus of large and conspicuous littoral sea-urchins in Florida waters at this late date is therefore a matter of no little interest, and this interest is increased by the fact that, with the sole exception of *Tripneustes esculentus* which sometimes slightly exceeds it, this new species is the largest of the regular echinoids in the shallow waters of the tropical Atlantic.

The new species from Florida may be called

***Astropyga magnifica*, sp. nov.**

Locality.—South of Dry Tortugas, Florida; 48 fathoms (88 meters); collected by Mr. P. Powers.

Diagnosis.—Related to *A. pulvinata* but with the ambitus circular instead of rounded pentagonal; with longer spines, which reach slightly more than half the diameter of the test in length; with a smaller peristome; and with only the outermost column of tubercles in each interambulacral area failing to reach the peristome. The color is uniform purplish black throughout.

The test is 145 mm. in diameter and 52 mm. high, thin and flexible, the plates interiorly with abrupt deep circular or oval pits corresponding to the primary tubercles, these pits becoming very numerous on the actinal surface. The oculogenital ring and the bare forked lines extending outward from the genital plates are deeply sunken so that the inner two-thirds of the ambulacral areas on the abactinal surface are much swollen. The whole animal is covered with rather thick soft skin.

The longest primary spines are about 75 mm. long; it is impossible to

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estimate their length exactly as all of them are broken off at some distance from the tip. The interior of the spines is filled with a rather dense calcareous network so that they appear solid. The spines increase in diameter slightly and very slowly from the base for a distance of about 20 mm., then remain uniform for some distance, finally tapering gradually to the tip. In section they are circular at the base, becoming transversely oval outward and often considerably flattened distally. At the base they bear 20-24 sharply rounded ridges which a little way above the base break up into rows of elongated scales with overlapping distal ends. Distally these scales gradually become more and more oblique, finally making an angle of about 30° with the axis of the spine. They show a marked tendency to become arranged in irregular verticils.

In the interambulacral areas on the actinal surface the outermost column of tubercles ends abruptly about one-third of the distance from the ambitus to the peristome, but the next column curves inward and reaches the peristome. There are 12 columns of tubercles in each interambulacral area at the ambitus.

The diameter of the actinal system from the apex of one genital to the outer border of the opposite ocular is 28 mm. The diameter of the periproct, within the ring of encircling plates, is 11 mm.

The diameter of the peristomal area is 42 mm.

Type specimen.—Cat. No. E.3125, U. S. National Museum. A second large specimen is entered under No. E.3126, and two small ones under Nos. E.3127 and E.3128.

Notes.—Two young individuals 58 mm. in diameter and 18 mm. high and 49 mm. in diameter and 16 mm. high; resemble *A. pulvinata* more closely than do the adults. Their form is pentagonal with broadly rounded angles. The color (in formalin) is light reddish buff actinally becoming brighter pinkish in the interradial areas abactinally. Abactinally the bare central portion and the bare lines radiating from it are deep purple, this color being continued outward along the sides of the ambulacral areas as a progressively narrowing margin as far as the amitus, and further as a much lighter pinkish line to the peristome. Along this band bordering the ambulacral areas is a series of conspicuous brilliant blue spots, one to each plate. The spines are very light dull greenish with several narrow bands of bright pinkish-purple or sometimes more or less deep purple. Abactinally the ambulacral areas within the dark border are duller and less pinkish than the interambulacral areas. The ambulacral pores are arranged in a single irregular column. There are six columns of primary tubercles in each interambulacral area at the ambitus.

Remarks.—This species is very readily distinguished from all the other sea-urchins of the tropical Atlantic. In its general appearance and blackish color it suggests *Centrechinus* (or *Diadema*) *antillarum*; but it is at once differentiated from this species by its much shorter and more slender solid spines and its thin and flexible test, the inner side of which is deeply pitted. The young are very easily recognized by their conspicuous color pattern and by their form.

This species should be compared with *A. radiata*, but no comparable specimens of that form are available.